

DECLARATION

SOLE CONTINUATION-IN-PART PATENT APPLICATION

I the undersigned declare that the information below is true, that I have reviewed and that I understand the contents of the specification, including the claims, that I believe that I am the original, first, and sole inventor of the invention described and claimed in the patent application entitled

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that, as to common subject matter of the instant application and my earlier filed United States applications; Serial No. 425,731 filed on Sept. 28, 1982; Serial No. 160,872 filed on June 19, 1980; Serial No. 860,257 filed on Dec. 14, 1977; Serial No. 101,881 filed on Dec. 28, 1970; Serial No. 134,958 filed on April 19, 1971; Serial No. 135,040 filed on April 19, 1971; Serial No. 229,213 filed on April 13, 1972; Serial No. 230,872 filed on March 1, 1972; Serial No. 232,459 filed on March 7, 1972; Serial No. 246,867 filed on April 24, 1972; Serial No. 288,247 filed on Sept. 11, 1972; Serial No. 291,394 filed on Sept. 22, 1972; Serial No. 302,771 filed on Nov. 1, 1972; Serial No. 325,933 filed on Jan. 22, 1973; Serial No. 325,941 filed on Jan. 22, 1973; Serial No. 366,714 filed on June 4, 1973; Serial No. 339,817 filed on March 9, 1973; Serial No. 402,520 filed on Oct. 1, 1973; Serial No. 490,816 filed on July 22, 1974; Serial No. 476,743 filed on June 5, 1974; Serial No. 522,559 filed on Nov. 11, 1974; Serial No. 550,231 filed on Feb. 14, 1975; Serial No. 727,330 filed on Sept. 27, 1976; Serial No. 730,756 filed on Oct. 7, 1976; Serial No. 754,660 filed on Dec. 27, 1976; Serial No. 752,240 filed on Dec. 20, 1976; Serial No. 801,879 filed on May 31, 1977; Serial No. 812,285 filed on July 1, 1977; Serial No. 844,765 filed on Oct. 25, 1977; Serial No. 849,812 filed on Nov. 9, 1977; Serial No. 860,278 filed on Dec. 13, 1977; and Serial No. 889,301 filed on March 23, 1978; of which the instant application is a continuation-in-part for the purpose of receiving benefit of the filing dates of said earlier filed United States applications in accordance with the statutes of the United States of America, I do not know and do not believe that said common subject matter was ever known or used in the United

States of America before my invention thereof or patented or described in any printed publication in any country before my invention thereof or more than one year prior to the filing dates of the related ones of said earlier filed applications, or in public use or on sale in the United States of America more than one year prior to the filing dates of the related ones of said earlier filed applications; that the said common subject matter has not been patented or made the subject of an inventor's certificate issued before the filing dates of the related ones of said earlier filed applications in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than one year prior to the filing dates of the related ones of said earlier filed applications and that no application for patent or inventor's certificate on said common subject matter has been filed by me or my legal representatives or assigns in any country foreign to the United States of America prior to the filing dates of the related ones of said earlier filed applications by me or my legal representatives or assigns; except that my earlier filed United States application Serial No 101,881 was filed in five foreign countries within one year after the December 28, 1978 filing date in the United States of America as follows

<u>FOREIGN COUNTRY</u>	<u>FOREIGN APPLICATION NUMBER</u>	<u>DATE OF FOREIGN FILING</u>
JAPAN	3974/1972	28 Dec 1971
GERMANY	P 21 64 190.7	23 Dec 1971
SWITZERLAND	19086/71	28 Dec 1971
GREAT BRITAIN	58814/71	17 Dec 1971
CANADA	130,959	23 Dec 1971

claiming the priority of the December 28, 1970 filing date of my earlier filed United states application Serial No 101,881; that, as to any subject matter of the instant application which is not common to said earlier applications (non-common subject matter), I do not know and do not believe that said non-common subject matter was ever known or used in the United States of America before my invention thereof or patented or described in any

printed publication in any country before my invention thereof or more than one year prior to the filing date of the instant application, or in public use or on sale in the United States of America more than one year prior to the filing date of the instant application; that the said non-common subject matter has not been patented or made the subject of an inventor's certificate issued in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than one year prior to the filing date of the instant application; that I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application; and that no application for patent or inventor's certificate on said noncommon subject matter has been filed by me or my legal representatives or assigns in any country foreign to the United States of America prior to the filing date of the instant application.

Wherefore I pray that a Letters Patent be granted to me for the invention and discovery described and claimed in the instant application and I hereby subscribe my name to this declaration. I further declare that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

6044-10 Gilbert P. Hyatt 3/31/86  
Gilbert P. Hyatt Date

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit : Not yet assigned  
Examiner : Not yet assigned  
Applicant : Gilbert P. Hyatt  
Serial No. : Not yet assigned  
Docket No. : 307  
Filed : Not yet assigned  
For : SIGNATURE COMMUNICATION SYSTEM

DECLARATION CLAIMING SMALL ENTITY STATUS

COMMISSIONER OF PATENTS AND TRADEMARKS

Washington, D.C. 20231

Sir:

I hereby declare that, as the inventor in the above referenced application, I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and 41(b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention identified above. I have not assigned, granted, conveyed, or licensed and am under no obligation under contract or law to assign, grant, convey, or license any rights in the instant application to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention or to a concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such a willful false statement may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

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### Disclosure Documents

An analysis pertinent to the present invention is set forth in the Disclosure Documents No. \_\_\_\_\_ filed in the Patent and Trademark Office on or about June 16, 1980 by Gilbert P. Hyatt; which is herein incorporated by reference. The analyses therein entitled Signal Processing Analysis for the MBUL System; System Analysis for the MBLE; and System Analysis for MBLE With Convolver are analyses of a system that is representative of embodiments of the present invention such as a multiple signature system having multiple channel correlator and convolver processing. The analysis therein entitled Information Theory Principles For Communication System Improvement is an analysis pertinent to the present invention. The MBLE system discussed in the Disclosure Documents was selected as representative of embodiments of the present invention including seismic exploration, filter memory, filter modem, and other systems disclosed in the instant application and the parent application S/N 550,231. Documents referenced in the Disclosure Documents are herein incorporated by reference including the following.

1. F. Jessie MacWilliams and Neil J.A. Sloane, "Pseudo-Random Sequences and Arrays", Proceedings of the IEEE, Vol 64, No 12, pp 1715-1729.
2. Claude E. Shannon, "Communication in the Presence of Noise", Proceedings of the IRE, Vol 37, pp 10-21.
3. Claude E. Shannon, "A Mathematical Theory of Communication", BSTJ, Vol 27, pp 379-423, July 1948.
4. Gwilym M. Jenkins and Donald G. Watts, Spectral Analysis and Its Applications, San Francisco, Holden-Day, 1968.
5. David G. Luenberger, Optimization by Vector Space Methods, New York, John Wiley, 1969.
6. Robert H. Shumway, "Applied Regression and Analysis of Variance For Stationary Time Series", Journal American Stat. Assoc., Dec 1970, Vol 65, No 332, pp 1527-1546.

7. E.S. Pearson and H.O. Hartley, Biometrika Tables For Statisticians, Vol II, Cambridge, England, Cambridge University Press, 1972.
8. Athanasios Papoulis; Probability, Random Variables, and Stochastic Processes; New York, McGraw Hill, 1965.
9. Douglas R. Anderson and Paul A. Wintz, "Analysis of a Spread Spectrum Multiple Access System With a Hard Limiter", IEEE Transactions Comm Tech, vol. COM-17, pp 285,290, April 1969.
10. W.J. Judge, "Multiplexing Using Quasiorthogonal Binary Functions", AIEE Trans Comm Elect, Vol 81, pp 81-83, May 1962.
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12. Robert K. Otnes and Loren Enochson, Digital Time Series Analysis, New York, John Wiley and Sons, 1972.
13. S. Weinreb, "A Digital Spectral Analysis Technique and Its Application to Radio Astronomy", MIT Research Laboratory of Electronics, Technical Report 412, 1963.
14. M. Hinich, "Estimation of Spectra After Hard Clipping of Gaussian Processes", Technometrics, vol 9.
15. Henning F. Harmuth, Transmission of Information by Orthogonal Functions, New York, Springer-Verlag, 1969.
16. Albert J. Berni and William D. Gregg, "On the Utility of Chirp Modulation For Digital Signaling", IEEE Trans. Comm, vol COM-21, pp 748-751, June 1973.
17. Y.W. Lee, Statistical Theory of Communication, New York, Wiley, 1960.
18. R.W. Lucky, J. Salz, and E.J. Weldon Jr; Principles of Data Communication, New York, McGraw Hill Book Company, 1968.
19. B. Widrow et al, "Adaptive Antenna Systems", Proc. IEEE, vol 55, No 12, Dec 1967, pp 2143-2159.
20. W.W. Peterson and E.J. Weldon Jr. Error-Correcting Codes, 2nd ed., Cambridge, the MIT Press, 1972.

21. R.L. Dobrushin, "Information Transmission in a Channel With Feedback", Theory of Probability and Applications, vol 34, pp 367-383, Dec 1958.
22. Claude F. Shannon, "Two-Way Communication Channels", Proc. 4th Berkeley Symp Math Stat. and Prob., vol 1, pp 611-644, 1961.
23. J.Pieter M. Schalkwijk, " Coding Scheme For Additive Noise Channels with Feedback Part II: Band-Limited Signals", IEEE Trans Info Theory, vol IT-12, pp 183-189, April 1966.
24. J.N. Pierce and S. Stein, "Multiple Diversity with Non-independent Fading", Proc IRE Jan 1960, pp 89-104.
25. R.G. Gallager, Information Theory and Reliable Communication, New York, John Wiley and Sons, 1968.
26. A.I. Khinchin, Mathematical Foundations of Stastical Mechanics, New York, Dover Pub Inc., 1949.
27. A.N. Kolmogorov, "On the Shannon Theory of Information Transmission in the Case of Continuous Signals", IEEE Trans. Inform Theory, vol IT-2, pp 102-108, Sept 1956.
28. M.S. Pinsker, "Quantity of Information of a Gaussian Random Stationary Random Process Contained in a Second Process Related Stationary thereto", Doklady Akad Nauk SSSR, vol 111, No 4, 1956, pp 753-756.
29. J.M. Wozencraft and I.M. Jacobs, Principles of Communication Engineering, New York, John Wiley, 1965.
30. T. Berger, Data Distortion Theory, A Mathematical Basis For Data Compression, Englewood Cliffs, New Jersey, Prentice Hall Inc, 1971.



Disclosure Documents

The filtering and processing capability disclosed herein and in the referenced applications are supplemented by the disclosures filed in the Patent and Trademark Office under the Disclosure Document Program (MPEP 1706) in

- (a) Disclosure Document No. 084,212 filed on Sept 12, 1979; particularly at pages 41-46 therein;
- (b) Disclosure Document No. 085,829 filed on Nov 14, 1979; particularly at pages 68-77 therein; and
- (c) Disclosure Document No. 087,707 filed on Jan 28, 1980; particularly at pages 13-15 and 78-80 therein

which are herein incorporated by reference.